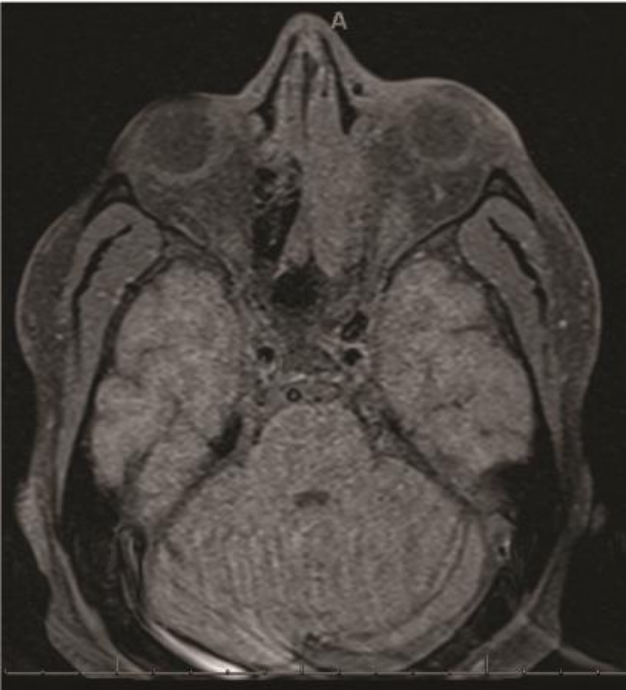


50-year-old male presenting
with left-sided facial pain and
swelling secondary to recent
trauma

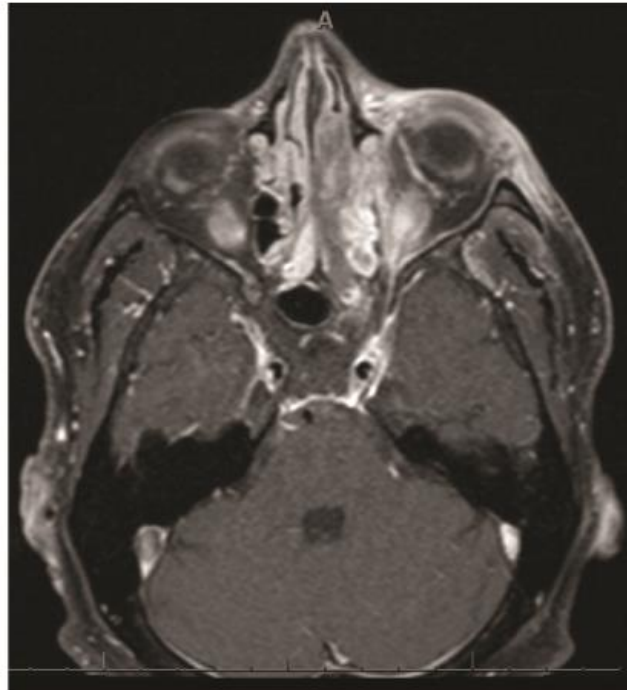
Nathan Leclair, MS3

T1 MRI

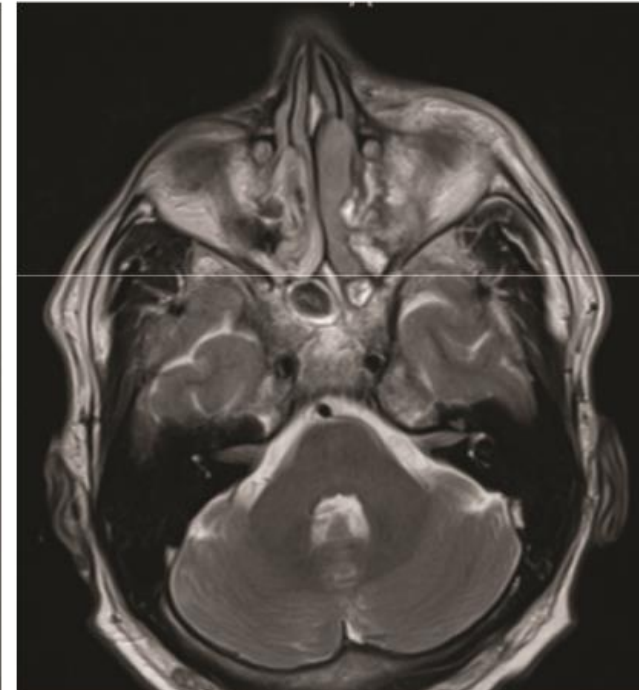
Pre-contrast



Post-contrast



T2 FLAIR



A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

?

Esthesioneuroblastoma (Olfactory Neuroblastoma)

T1 MRI

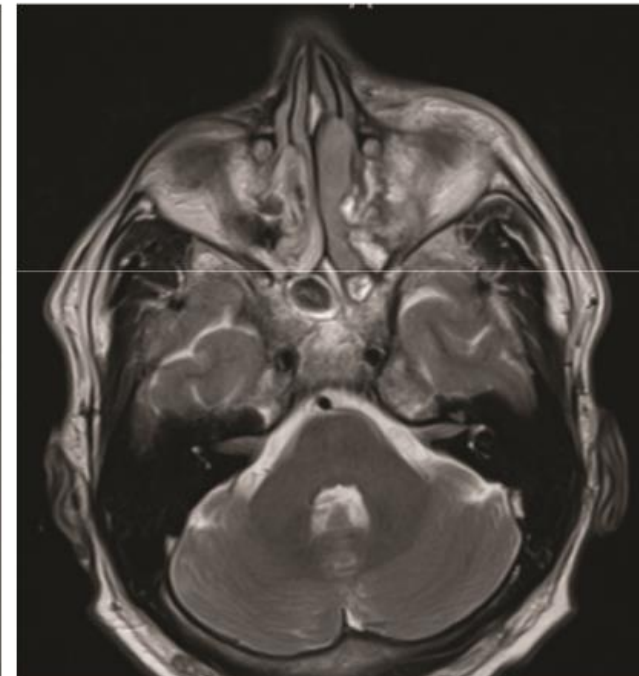
Pre-contrast



Post-contrast



T2 FLAIR



Poor heterogeneously enhancing soft tissue mass on T1 weighted images centered in the left nasal cavity.

Associated outflow obstruction of the left maxillary, ethmoid, and frontal sinuses

Esthesioneuroblastoma

Rare malignant tumor of neural crest origin arising from olfactory neuroepithelium in the superior nasal cavity.

Presentation / Epidemiology

- Adolescent or middle-aged patient with unilateral nasal obstruction and epistaxis
- Slight male predominance
- Metastatic spread in up to 35%, most often to cervical lymph nodes. Distant spread occurs in ~10% of cases
- Clinically appear as firm, nonpulsatile mass covered by intact respiratory mucosa
 - May bleed profusely on biopsy
 - Broad-based, pedunculated, lobulated, mucosal-covered mass at cribriform plate
 - +/- engorged red appearance due to rich vascular stroma
 - Intranasal lesions may be indistinguishable from polyposis, chronic sinusitis and other nasal neoplasms

Differential diagnosis for sinonasal masses

- Esthesioneuroblastoma, nasal polyps (associated with chronic rhinosinusitis), sinonasal / schneiderian papillomas (fungiform, inverted, oncocytic), paranasal carcinoma (squamous cell or adeno), lymphoma, melanoma, soft tissue sarcomas, sinonasal infections / abscesses (presenting with constitutional symptoms), nasal hematomas (history of coagulopathy of trauma)

Imaging Findings

CT

- Homogeneously enhancing mass
 - When large +/- nonenhancing areas of necrosis with intracranial peritumoral cyst.
- Bone remodeling causing enlargement of olfactory recess with bone erosion at cribriform plate
- Rarely have a speckled pattern of calcification within tumor matrix
- Useful for determining extent of bone destruction; may alter extent of craniofacial resection

MR

- T1: Hypointense to isointense mass compared to brain; areas of hemorrhage can be hyperintense
- T1+C: Enhancement heterogeneous in areas of necrosis
- T2: intermediate to hyperintense mass compared to brain with areas of cystic degeneration; areas of hemorrhage can be hypo or hyperintense depending on age of blood
- DWI: Mildly restricted diffusion

PET/CT

- Increased FDG uptake
- Useful for detecting nodal and distant metastases

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